

**Serial No. 10/501,724**  
**Atty. Doc. No. 2001P22564WOUS**

Amendments to the Claims: Please amend the claims as shown.

1-12 (canceled)

13. (currently amended) An eddy current measuring device, comprising:

a flexible base comprising a front surface that comes in contact with a test body;

a single signal coil;

a single excitation coil;

wherein the signal coil and the excitation coil are arranged in a planar form in a single

layer on a rear surface of the flexible base; and

a flexible rear layer comprising a ferromagnetic ferrite material that at least partially covers and contacts the signal coil and the excitation coil;

wherein the flexible base, the signal coil, the excitation coil, and the flexible rear layer are assembled in a flexible stack of layers that remains sufficiently flexible to allow the stack to be variably matched to radii of curvature on a surface of a test body.

14. (previously presented) The device as claimed in claim 13, wherein the flexible base is a flexible sheet.

15. (previously presented) The device as claimed in claim 14, wherein the sheet is formed from polyimide.

16. (previously presented) The device as claimed in claim 13, wherein at least one of the two coils is made of copper.

17. (previously presented) The device as claimed in claim 13, wherein the flexible rear layer is formed by a polymer sheet filled with ferrite.

18. (cancelled)

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19. (previously presented) The device as claimed in claim 13, wherein the flexible rear layer is formed by a plastically deformable encapsulation compound filled with ferrite particles.

20. (cancelled)

21. (previously presented) The device as claimed in claim 13, wherein the device has ferromagnetic signal amplification.

22. (cancelled)

23. (previously presented) An eddy current measuring device, comprising:  
a flexible base formed as a flexible sheet of polyimide;  
a first electrical component connected to the flexible base;  
a second electrical component connected to the flexible base; and  
a rear layer comprising a flexible curable material encapsulating ferrite particles, the rear layer attached to at least one of the electrical components on a curved surface of the rear layer to match a curved surface of a test body;

wherein the flexible base, the first and second electrical components, and the rear layer collectively form an assembled stack that is flexible after curing of the curable material to variably conform to a curved surface of a test body.

24-25. (cancelled)

26. (previously presented) The device as claimed in claim 23, wherein at least one coil is connected to the flexible base as an electrical component and is a copper coil.

27. (previously presented) The device as claimed in claim 23, wherein the device has ferromagnetic signal amplification.

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28. (currently amended) An eddy current measuring device, comprising:  
a flexible base layer comprising a front surface and a rear surface, the front surface exposed for contact with a test surface of a test body;  
a first electrical coil mounted on the rear surface of the flexible base layer;  
a flexible rear layer comprising a ferrite material at least partially directly covering the first electrical coil;  
at least one electrical conductor connected to the first electrical coil and passing through the flexible rear layer; and  
the flexible base layer, the first electrical coil, and the flexible rear layer forming an assembled flexible stack of layers.

29. (previously presented) The device as claimed in claim 28, further comprising a second electrical coil mounted on the rear surface of the flexible base layer surrounding the first electrical coil.

30. (cancelled)